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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,578	03/30/2005	Shinji Isoda	7378/84295	7865

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FITCH, EVEN, TABIN & FLANNERY
P. O. BOX 18415
WASHINGTON, DC 20036

EXAMINER

ASINOVSKY, OLGA

ART UNIT	PAPER NUMBER
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1711

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/529,578	Applicant(s) ISODA ET AL.	
	Examiner Olga Asinovsky	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/30/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The preliminary amendment is noted.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medsker et al U.S. Patent 6,251,998 or Isoda et al U.S. Patent 6,610,787 each in view of Nishihara U.S. Patent 6,403,716 and further in view of Tsuji et al U.S. Patent 5,677,382.

The claimed invention is an impact modified thermoplastic resin wherein the impact modifier comprises at least two olefinic rubbers having different Mooney viscosity.

The claimed vinyl resin, which is obtained by polymerizing a vinyl monomer, is a product-by-process. The product-by-process is a product.

Medsker'998 discloses a thermoplastic resin and rubber for producing a thermoplastic elastomer composition. Thermoplastic resins, column 2, lines 53-67 and column 3, lines 1-14, are readable in the present claims. Blends of thermoplastic resins may also be used, for the present claim 7. The rubber is an ethylene, alpha-olefin, non-conjugated diene elastomeric polymer, column 3, lines 19-22. The ethylene content is from 40 wt%. The alpha-olefin can be selected from propylene, 1-butene, 1-hexene, 4-methyl-1-

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pentene, 1-octene and the like, column 3, lines 31-33. The elastomeric polymer has a Mooney viscosity (at 200⁰ C) in the range of from 45 to about 100, column 3, lines 35-39. The rubber content is in the range of from about 80 to about 20wt%, column 3, lines 51-52. The non-conjugated diene, column 3, lines 55-67 and column 2, lines 25-26, is readable in the present claims. There is no restriction to select specified type of rubber in Medsker invention. The combination of rubbers having different content of ethylene, alpha-olefin, non-conjugated diene is expected in Medsker invention. A Mooney viscosity of different rubber combination is expected, because a Mooney viscosity is depending on the content of ethylene, alpha-olefin, and nonconjugated diene. If desired a crosslinking agent can be added, column 7, lines 33-39.

Isoda discloses a rubber reinforced thermoplastic resin obtained by polymerizing aromatic vinyl compounds, vinyl cyanide compounds and other copolymerizable compounds in the presence of a rubber-like polymer, column 2, lines 31-45. Mixtures of these rubber-reinforced thermoplastic resins and (co)polymers of the said monomers are also usable preferably. The rubber-like polymers include ethylene-alpha-olefin-nonconjugated diene copolymers, wherein an alpha-olefin can have C₃ to C₂₀ carbon atoms, column 3, lines 24-55. The alpha-olefins may be used singly or as a combination of two or more, column 3, line 43. The ethylene to alpha-olefin weight ratio is 5 to 95/95 to 5, more preferably 40 to 85/60 to 15. The nonconjugated diene compounds may be used singly or as a combination of two or more, column 48-55. The rubber-like polymer has a Mooney viscosity of 40 to 110, column 2, line 35. The content of rubbers

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and a combination of rubbers having different Mooney viscosity is expected in Isoda invention to control the physical performance of the resulting composition, column 8, lines 17-23.

The difference between Medsker invention or Isoda invention and the present claims is the requirement that a second rubber-like copolymer has 1-octene alpha-olefin.

Nishihara'716 discloses rubbery polymer based on ethylene-alpha-olefin having 2-20 carbon atoms, column 7, line 52, column 8, line 5 and column 3, lines 7-15. The octane-1 has a superior effect on providing flexibility and mechanical strength to the copolymers obtained even in a small amount, column 3, lines 13-15.

Tsuji discloses an ethylene-alpha-olefin-non-conjugated diene copolymer rubber composition comprising a low molecular weight component copolymer composed of an ethylene-alpha-olefin-non-conjugated diene copolymer having a Mooney viscosity of 10 to 150, and a high molecular weight component copolymer composed of an ethylene-alpha-olefin-non-conjugated diene copolymer having a Mooney viscosity of 100 to 500, column 2, lines 41-52. Rubber-like copolymer having Mooney viscosity higher than 15 and rubber-like copolymer having a Mooney viscosity of less than 15 are readable in Tsuji invention.

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It would have been obvious to one of ordinary skill in the art to employ at least two rubber-like elastomers having different Mooney viscosity by teaching in Tsuji invention into a rubber modified thermoplastic resin composition in Medsker invention or Isoda invention and select a second rubber-like copolymer composed on octene-1 alpha-olefin as disclosed in Nishihara invention as a benefit to improve the physical performance, and thereby obtain the claimed requirement.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference has been considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.A

Olga Asinovsky
Examiner
Art Unit 1711

April 19, 2007



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700